UNITED STATES PATENT AND TRADEMARK OFFICE

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10/629,456	07/29/2003	James B. Armstrong	SEDN/141CON1	7320

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 July 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _29 July 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _7/29/2003_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.   Claims 1, 3, 5, and 7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4, 6, and 9 of U.S. Patent No. 6,604,224 in view of Mendelson et al (US 5,561,791) and the ISO/IEC 13818-1 Standard. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the claims of the instant application and the Patent claims are almost identical in scope, with the exception that the Patent's claims are system claims and the instant application's claims are method claims. It would have been obvious to one of ordinary skill in the art to modify the system claim of the Patent to be a method claim in order to obtain a method for the system claim of the patent.

Claim 1 of the Patent claims all the limitations set forth in the instant claim except for the data extent comprising a plurality of packets, unique content identifier, logical extent number, and a circular redundancy check.

Mendelson teaches extents (protocol data units, column 5 lines 54-58) comprising a plurality of content data packets (cells, column 5 lines 55-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to divide the extents of patent claim 4 into smaller cells in order to allow the packets to be transported in an asynchronous transfer mode (ATM) network, which is widely used in the art.

The ISO/IEC 13818-1 Standard teaches a unique content identifier (stream id, page 36), a logical extent number (program packet sequence counter, page 43), and a circular redundancy check (previous packet CRC, page 42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the content identifier of patent claim 4 unique in order to easily differentiate streams, to use a CRC as the check field recited in patent claim 4 in order to employ a commonly used data checking technique, and to use a logical extent number as the analogous content sequence number field recited in claim 4 for the benefit of tracking and maintaining the order of packets in stream.

Claim 3 of application 10/629,456 corresponds to claim 4 of US Patent No. 6,604,224 B1.

Claim 5 of application 10/629,456 corresponds to claim 6 of US Patent No.

6,604,224 B1.

Claim 7 of application 10/629,456 corresponds to claim 9 of US Patent No.

6,604,224 B1.

Allowance of application claims 1, 3, 5, and 7 would result in an unjustified time-

wise extension of the monopoly granted for the invention defined by patent claims 4, 6,

and 9. Therefore, obviousness-type double patenting is appropriate.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 3-8, 11, and13-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mendelson et al (US 5,561,791) in view of the ISO/IEC 13818-1

Standard, and Neel et al (US 5,838,314).

Regarding claim 1, Mendelson teaches a method for providing content-on-

demand (abstract), comprising:

dividing a content stream in to a plurality of extents (protocol data units, column 5 lines 54-58) containing packetized information (cells, column 5 lines 54-58); and associating with each extent, a data extent (TS packet data, column 5 lines 22-26 and 55-58) comprising a plurality of content data packets (cells, column 5 lines 55-58), and an extent trailer (column 5 lines 59-61).

Mendelson does not teach the specific fields of the trailer, however he states the trailer information is used to decompose the protocol data units into TS packets.

The ISO standard teaches TS packets include PES header information ("The first byte of each PES packet header is located at the first available payload location of a Transport Stream packet" page 11 section 2.4.1). ISO further teaches PES headers comprise a unique content identifier (page 36 "stream id"), a logical extent number (page 43 "program packet sequence counter"), a track-type identifier (page 40 "trick mode control" and page 38 "DSM trick mode flag"), and a circular redundancy check (page 42 "previous packet CRC"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the PES header fields taught by ISO into the protocol data unit (PDU) taught by Mendelson for the benefit of having all the necessary information to reconstruct a TS packet that is in accordance with the widely accepted ISO standard for MPEG systems.

Mendelson in view of ISO does not teach the packetized information is appropriate to a temporal period represented by each extent.

Neel teaches packetized extents (video contents) that each contain a specified temporal period of five seconds (column 22 lines 58-59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to divide the audio and video data extents into temporal periods for the benefit of simplifying the synchronization of corresponding audio and video data packets during decoding. In this combination, the temporal period would be chosen such that the amount of data would optimally fit in each PDU with minimal stuffing required.

Regarding claim 3, when read in light of claim 1, ISO further teaches transmitting said plurality of extents of said content stream to at least one subscriber terminal in response to a request for content (page 87 section A.0.2 states that video programs are provided as requested by a customer in a video-on-demand system).

Regarding claim 4, when read in light of claim 1, ISO further teaches said unique content identifier is associated with a particular content stream (page 4 section 2.1.20 "One elementary stream is carried in a sequence of PES packets with one and only one stream id").

Regarding claim 5, when read in light of claim 1, ISO further teaches said logical extent number (program packet sequence counter) provides a number

indicative of a relative position of said data extent with respect to other data extents within said content stream (definition of program packet sequence counter "It is an optional counter that increments with each successive PES packet from a Program Stream or from an ISO/IEC 11172 System Stream or the PES packets associated with a single program definition in a Transport Stream, providing functionality similar to a continuity counter" page 43).

Regarding claim 6, when read in light of claim 5, ISO further teaches each said logical extent number is sequentially numbered within said content stream (definition of program packet sequence counter "It is an optional counter that increments with each successive PES packet from a Program Stream or from an ISO/IEC 11172 System Stream or the PES packets associated with a single program definition in a Transport Stream, providing functionality similar to a continuity counter" page 43).

Regarding claim 7, when read in light of claim 1, ISO further teaches said track-type (trick mode control) identifier comprises indicia of a type of track selected from the group consisting of a play track (indicated by trick mode flag set to 0 which sets trick mode status to false, as described on page 20 under Trick Mode), a fast-forward track, and a reverse-play track (fast reverse and slow reverse) (page 40 under trick mode control definition and Table 2-21).

Regarding claim 8, when read in light of claim 1, ISO further teaches

performing a circular redundancy check (CRC) operation on said plurality of

content data packets of each data extent during initial formation of said data

extent (page 42 teaches calculating a CRC value for a data packet and including

it in the header).

Regarding claim 11, Mendelson teaches an apparatus for providing

content-on-demand (figure 1 element 110: video server) comprising:

means (figure 1 elements 114 and 700: encoder and transport controller) for

dividing a content stream in to a plurality of extents (protocol data units, column 5

lines 54-58) containing packetized information (cells, column 5 lines 54-58); and

means (figure 1 element 114: encoder) for associating with each extent , a data

extent (TS packet data, column 5 lines 22-26 and 55-58) comprising a plurality of

content data packets (cells, column 5 lines 55-58), and an extent trailer (column

5 lines 59-61)

Mendelson does not teach the specific fields of the trailer, however he

states the trailer information is used to decompose the protocol data units into TS

packets.

The ISO standard teaches TS packets include PES header information

("The first byte of each PES packet header is located at the first available

payload location of a Transport Stream packet" page 11 section 2.4.1). ISO

further teaches PES headers comprise a unique content identifier (page 26

"stream id"), a logical extent number (page 43 "program packet sequence counter"), a track-type identifier (page 40 "trick mode control" and page 38 "DSM trick mode flag"), and a circular redundancy check (page 42 "previous packet CRC").

Mendelson in view of ISO does not teach the packetized information is appropriate to a temporal period represented by each extent.

Neel teaches packetized extents (video contents) that each contain a specified temporal period of five seconds (column 22 lines 58-59).

Regarding claim 13, when read in light of claim 11, Mendelson further teaches means (video server) for transmitting said plurality of extents of said content stream to at least one subscriber terminal in response to a request for content (column 1 lines 18-19).

Regarding claim 14, please see analysis of claim 4.

Regarding claim 15, please see analysis of claim 5.

Regarding claim 16, please see analysis of claim 4.

Regarding claim 17, please see analysis of claim 7.

Regarding claim 18, please see analysis of claim 8.

5.   Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mendelson et al (US 5,561,791) in view of the ISO/IEC 13818-1 Standard and Neel et al

(US 5,838,314), and further in view of Mourad (US 5,678,061).

Regarding claim 2, when read in light of claim 1, Mendelson in view of ISO

teaches the method of claim 1.

Mendelson in view of ISO does not teach striping said plurality of extents

of said content stream across a plurality of disk drives.

Mourad teaches striping said plurality of extents of said content stream

across a plurality of disk drives (column 1 lines 44-56). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to

use the striping method taught by Mourad to store the extents taught by

Mendelson in view of ISO for the benefit of providing a storage system that is

less affected by the failure of a disk.

Regarding claim 12, when read in light of claim 11, Mourad further

teaches

means (figure 1 element 25: host processor) for striping said plurality of extents

of said content stream across a plurality of disk drives (column 4 lines 27-32).

6.   Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mendelson et al (US 5,561,791) in view of the ISO/IEC 13818-1 Standard and Neel et al

(US 5,838,314), and further in view of Ghodrat et al (US 6,717,947 B1).

        Regarding claim 9, when read in light of claim 8, Mendelson in view of ISO

teaches the method of claim 8. Mendelson does not teach replacing a corrupted

data extent with a replacement data extent in an instance where said CRC

operation identifies said corrupted data extent.

        Ghodrat teaches replacing a corrupted data extent with a replacement

data extent in an instance where said CRC operation identifies said corrupted

data extent (column 2 lines 61-64, column 9 line 63- column 10 line 2). It would

have been obvious to one of ordinary skill in the art at the time the invention was

made to replace corrupted data, as taught by Ghodrat, in the data extents taught

by Mendelson in view of ISO for the benefit of maintaining data integrity.

        Regarding claim 19, please see analysis of claim 9.

7.   Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Mendelson et al (US 5,561,791) in view of the ISO/IEC 13818-1 Standard and Neel

et al (US 5,838,314), and further in view of Anderson et al (US 6,275,507 B1).

Regarding claim 10, when read in light of claim 8, Mendelson in view of ISO teaches the method of claim 8.

Mendelson in view of ISO does not teach masking a corrupted data extent in an instance where said CRC operation identifies a corrupted data extent.

Anderson teaches masking a corrupted data extent in an instance where said CRC operation identifies a corrupted data extent (column 11 lines 39-42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Anderson's teaching of masking corrupted data for the benefit of preserving the quality of data.

Regarding claim 20, please see analysis of claim 10.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kouloheris et al (US 5,915,094) teaches a video-on-demand system that stripes packets across a disk array.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASMINE STOKELY-COLLINS whose telephone number is (571) 270-3459. The examiner can normally be reached on M-Th 9:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jasmine Stokely-Collins/
Examiner, Art Unit 2623

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2623